1. An imager device, comprising:

an array of pixels; and

a first circuit electrically coupled to at least one pixel of said array, said first circuit outputs a digital representation of an analog pixel signal based on a difference between a reference signal current and pixel signal current.

2. The imager device of claim 1, wherein said first circuit comprises:

a second circuit having a first resistance through which the reference signal current flows;

a third circuit having a second resistance through which the pixel signal current flows; and

an analog-to-digital converter coupled to said second and third circuits, said analog-to-digital converter modifies the first resistance based on the difference between the reference signal current and the pixel signal current, wherein said digital representation corresponds to an output of the analog-to-digital converter used to modify the first resistance.

3. The imager device of claim 2, wherein said analog-to-digital converter modifies the first resistance when the reference signal current does not equal the pixel signal current.

4. The imager device of claim 2 wherein said analog-to-digital converter comprises:

a first switch connected to the first resistance; and

a comparator for controlling said first switch with a control signal such that the first resistance may be modified and for outputting the control signal as the digital representation.

5. The imager device of claim 1, wherein said first circuit comprises:

a second circuit having a first switch coupled to a first switchable resistance through which the reference signal current flows, said first switchable resistance being controlled by clock signals operating at a first frequency, said first switch being controlled by a control signal;

a third circuit having a second switchable resistance through which the pixel signal current flows, said second switchable resistance being controlled by clock signals operating at the first frequency; and

an analog-to-digital converter coupled to said second and third circuits, said analog-to-digital converter modifies the first resistance based on the difference between the reference signal current and the pixel signal current by outputting the control signal, said digital representation corresponding to the control signal.

6. The imager device of claim 5, wherein said analog-to-digital converter modifies the first resistance when the reference signal current does not equal the pixel signal current.

7. The imager device of claim 5, wherein a duty cycle of the control signal corresponds to a level of brightness of the pixel signal.

8. The imager device of claim 5, wherein said control signal causes said first switch to open.

9. The imager device of claim 5, wherein said analog-to-digital converter comprises:

a first switch connected to the first switchable resistance; and

a comparator controlling said first switch with the control signal such that the first resistance may be modified and outputting the control signal as the digital representation.

10. The imager device of claim 1 further comprising a counter for counting said digital representation to obtain a multi-bit digital code representative of the analog pixel signal.

11. The imager device of claim 10 wherein said counter is a ripple counter.

12. The imager device of claim 10 further comprising a hold register for holding the multi-bit digital code while said first circuit outputs a second digital representation of another analog pixel signal.

13. The imager device of claim 12 further comprising a decoder connected to said hold register for outputting the multi-bit digital code.

14. The imager device of claim 13 further comprising a current mirror for mirroring the reference signal current to the third circuit.

15. The imager device of claim 1 wherein said imager device is a CMOS imager.

16. An imager device comprising:

an array of pixels;

a first circuit coupled to a pixel of said array, said first circuit converting an analog reference signal voltage into a reference current;

a second circuit coupled to the pixel, said second circuit converting an analog pixel signal voltage into a pixel current; and

an analog-to-digital converter coupled to said first and second circuits, said analog-to-digital converter outputting a digital value corresponding to the analog pixel signal voltage based on a difference of said currents.

17. The imager device of claim 16 wherein said analog-to-digital converter modifies a resistance of said first circuit when the reference current does not equal the pixel current.

18. The imager device of claim 17 wherein said analog-to-digital converter comprises:

a first switch connected to the first resistance; and

a comparator for controlling said first switch with a control signal such that the first resistance is modified and for outputting the control signal as the digital representation.

19. The imager device of claim 18, wherein a duty cycle of the control signal corresponds to a level of brightness of the pixel signal.

20. The imager device of claim 18, wherein said control signal causes said first switch to open.

21. The imager device of claim 16 further comprising a counter for counting said digital value to obtain a multi-bit digital code representative of the analog pixel signal.

22. The imager device of claim 21 wherein said counter is a ripple counter.

23. The imager device of claim 21 further comprising a hold register for holding the multi-bit digital code while said analog-to-digital converter outputs a second digital value for another analog pixel signal.

24. The imager device of claim 23 further comprising a decoder connected to said hold register for outputting the multi-bit digital code.

25. The imager device of claim 16 wherein said imager device is a CMOS imager.

26. A processor system comprising:

a processor; and

an imager coupled to said processor, said imager comprising:

an array of pixels, and

a first circuit electrically coupled to at least one pixel of said array, said first circuit outputs a digital representation of an analog pixel signal based on a difference between a reference signal current and pixel signal current.

27. The system of claim 26, wherein said first circuit comprises:

a second circuit having a first resistance through which the reference signal current flows;

a third circuit having a second resistance through which the pixel signal current flows; and

an analog-to-digital converter coupled to said second and third circuits, said analog-to-digital converter modifies the first resistance based on the difference between the reference signal current and the pixel signal current, wherein said digital representation corresponds to an output of the analog-to-digital converter used to modify the first resistance.

28. The system of claim 27, wherein said analog-to-digital converter modifies the first resistance when the reference signal current does not equal the pixel signal current.

29. The system of claim 27 wherein said analog-to-digital converter comprises:

a first switch connected to the first resistance; and

a comparator for controlling said first switch with a control signal such that the first resistance may be modified and for outputting the control signal as the digital representation.

30. The system of claim 26, wherein said first circuit comprises:

a second circuit having a first switch coupled to a first switchable resistance through which the reference signal current flows, said first switchable resistance being controlled by clock signals operating at a first frequency, said first switch being controlled by a control signal;

a third circuit having a second switchable resistance through which the pixel signal current flows, said second switchable resistance being controlled by clock signals operating at the first frequency; and

an analog-to-digital converter coupled to said second and third circuits, said analog-to-digital converter modifies the first resistance based on the difference between the reference signal current and the pixel signal current by outputting the control signal, said digital representation corresponding to the control signal.

31. The system of claim 30, wherein said analog-to-digital converter modifies the first resistance when the reference signal current does not equal the pixel signal current.

32. The system of claim 30, wherein a duty cycle of the control signal corresponds to a level of brightness of the pixel signal.

33. The system of claim 30, wherein said control signal causes said first switch to open.

34. The system of claim 30, wherein said analog-to-digital converter comprises:

a first switch connected to the first switchable resistance; and

a comparator for controlling said first switch with the control signal such that the first resistance may be modified, and an outputting the control signal as the digital representation.

35. The system of claim 26 wherein said imager further comprises a counter for counting said digital representation to obtain a multi-bit digital code representative of the analog pixel signal.

36. The system of claim 35 wherein said counter is a ripple counter.

37. The system of claim 35 wherein said imager further comprises a hold register for holding the multi-bit digital code while said first circuit outputs a second digital representation of another analog pixel signal.

38. The system of claim 37 wherein said imager further comprises a decoder connected to said hold register for outputting the multi-bit digital code.

39. The system of claim 38 wherein said imager further comprises a current mirror for mirroring the reference signal current to the third circuit.

40. The system of claim 26 wherein said imager is a CMOS imager.

41. A processor system comprising:

a processor; and

an imager coupled to said processor, said imager comprising:

an array of pixels;

a first circuit coupled to a pixel of said array, said first circuit converting an analog reference signal voltage into a reference current;

a second circuit coupled to the pixel, said second circuit converting an analog pixel signal voltage into a pixel current; and

an analog-to-digital converter coupled to said first and second circuits, said analog-to-digital converter outputting a digital value corresponding to the analog pixel signal voltage based on a difference of said currents.

42. A method of operating an imager, said method comprising the steps of:

converting a reference signal voltage into a first current;

converting a pixel signal voltage into a second current; and

outputting a digital code representative of the pixel signal based on a difference of the first and second currents.

43. The method of claim 42, wherein said step of converting the reference signal voltage comprises:

inputting the reference signal voltage; and

applying the reference signal voltage across a switchable resistance resistor.

44. The method of claim 43, wherein said step of converting the pixel signal voltage comprises:

inputting the pixel signal voltage; and

applying the pixel signal voltage across a switchable resistance resistor.

45. The method of claim 43, further comprising the step of adjusting the resistance of the resistor such that the first current substantially equals the second current.

46. The method of claim 45, wherein said adjusting step comprises:

determining if the first current is greater than the second current; and

disconnecting the resistor.

47. The method of claim 45, wherein said adjusting step comprises:

determining if the first current is greater than the second current;

disconnecting the resistor using a control signal; and

outputting the control signal as the digital code.

48. A method of operating an imager, said method comprising the steps of:

inputting a reference signal voltage;

applying the reference signal voltage across a first switchable resistance resistor to generate a first current;

inputting a pixel signal voltage;

applying the pixel signal voltage across a second switchable resistance resistor to generate a second current;

determining a difference between the first and second current;

adjusting the first resistance if the first current does not equal the second current; and

outputting a digital code representative of the pixel signal based on a number of times the first resistance is adjusted.